

Export boss quits over bureaucracy

by John Kavanagh

THE head of the government agency to export UK information technology has quit because of "bureaucratic meandering". Donald Moore, director of Export IT, says he has "serious doubts whether the government is genuinely interested in exporting information technology products". He has also accused the Computing Services Association - one of the original sponsors of Export IT - of trying to muscle in to become the only export co-ordinator.

Moore's outburst comes in a statement and letter to members about Export IT's annual general meeting this month.

He says the government's hesitation over funding stems partly from CSA opposition to Export IT. Quoting GEC chairman Lord Weinstock, Moore says: "Although governments and trade as-

sociations cannot themselves create business they can certainly frustrate its generation."

The CSA started its own export drive following the appointment of Roger Graham of software house BIS to a top post in the European CSA.

But Doug Eyeions, director general of the UK CSA, denied that there was any dispute with Export IT.

"We're not muscling in on them at all," he said. "The whole future of exporting information technology is under discussion and like everyone else, we're unhappy that it's taking so long."

Moore said: "People must recognise how much more can be achieved by working together, particularly when there is no concern about who is to receive the credit. Until they do the limited management resources will continue to be frittered away in bureaucratic

discussions to the benefit of our international competitors." Moore says he is not standing for re-election, "to make public the situation that the staff of Export IT have been living with for more than 12 months".

Export IT was formed at the end of 1981 with £248,000 from the government to see it through 1982. It has made this money last an extra year "through gross parsimony, good housekeeping, registration fees and organising events". In 1983 the staff has been cut by half to three project managers. Moore has worked unpaid.

Export IT has 150 members and many more companies interested in its activities. It has organised visits by UK firms to exhibitions in the Far East, the Middle East and the US. In its first year it claims to have brought UK firms export contracts representing over £10 million worth of business.

£9m Ada and Chill language project hangs in balance

by George Black

A BID to save the £9 million government-backed Ada and Chill language research scheme hangs in the balance this week.

The backers, the Defence Ministry and British Telecom, wanted a fixed-price contract, but the developers, led by ICL, insisted on a cost-plus arrangement.

The Ada Group consortium blamed BT for a "precipitate withdrawal" from the scheme last month, but is now talking to the Defence Ministry to try to revive it.

Brian Gladman, head of the communications and computing group at RSRE Malvern, said they hoped to go ahead with a revised scheme to establish a portable Ada compiler technology.

The aim would be to arrive at a first generation project support environment by the end of 1985, which could then be integrated into the Alvey Programme, the national fifth generation undertaking.

The Ministry is negotiating with BT about splitting the Ada and Chill elements, after the collapse of the original contract. The MoD interest lies in maintaining the Ada part of the scheme for its real time applications in NATO, not with Chill, which is a telecommunications tool. BT, however, said it still believed in a joint development of the two languages. A spokesman added that they were "looking at other ways" of getting the work done without ICL and its partners.

Ada Group managing director Martin Jordan said they only had until the end of the year in which to find the money. Then his remaining team of 35 would be split up and the designers would have to go back to their previous employers. Fifteen have already been laid off.

Jordan said if the scheme folded up it would be "a desperate waste of a vital piece of technology".

He spoke bitterly of the government "pumping millions into Immos, but unwilling to spend a relatively small amount on software."

"We have solved problems that the Americans have been struggling with, because we have avoided making their mistakes," he said.



MOORE... Bureaucratic meandering.

BP switches to IBM mainframe

ONE of the UK's biggest ICL users, BP, will buy an IBM 3083 instead of an ICL Atlas for its London-based international marketing operation. BP uses a variety of hardware, but invested heavily in ICL's 2900 series mainframes.

ICL has sold only two of its IBM-compatible Atlases, made by Fujitsu in Japan, since May 1982. It had hoped to sell 18 by now.

No ITV micro

ITV will not be endorsing one particular micro to go with TV programmes made by the ITV companies. But individual companies will continue to develop a range of TV programmes aimed at computer users in small businesses, education and the home.

Monday's decision not to promote an ITV micro was made because doing so might affect advertising from other micro manufacturers.

Swiss role

SWISSAIR has moved into computer retailing by opening a shop in Zurich. The company expects to win a "considerable" share of the tiny Swiss market by selling IBM, Apple and Hewlett-Packard microcomputers, plus calculators. Forecasts put the entire domestic business market at just 75,000 machines in the next three years.

Combined issue

TODAY'S issue of *Computer Weekly* is the last until the New Year. It combines the issues of December 15 and 22; the issue of December 29 is dropped. We wish all our readers a happy Christmas and a prosperous New Year. *Computer Weekly* will be back on January 5. This issue has suffered from production difficulties.

Hardware thieves 'will come unstuck'

by John Riley

THIEVES raided London-based RC Computers at the weekend and got away with four business computer systems worth at least £20,000.

The company was to use the systems in a training school for users scheduled to get underway in January.

The haul comprises three ITT 3290 intelligent terminals and one RC 855 multifunction workstation, with disc drives and Facit Addo 4510 matrix printers.

But if the raiders think they will sell them off quickly to the home computer market they will be disappointed, says John Mumford, managing director of RC Computers, a subsidiary of the Danish company Regnecentralen.

"They got the hardware, but didn't take the special cables which make the printers work with the terminals," he said. "They didn't get any configured software either."

"The equipment is of use only to those with a significant IBM presence as our communications are entirely with the IBM world. I could have understood it if they'd swiped a bunch of Apples or a set of PCs, but they'll come unstuck with these."

RC Computers, which was set

up in the City in 1979, sells its own RC 855 workstations and configures and supplies software to ITT houses.

"The theft has been pointless," added Mumford. "People in the business world want to know who they're buying equipment from, and want the maintenance and software support that goes with a sale. It was a waste of time for the thieves because as soon as they realise they can't sell the systems, they'll dump them. Whatever happens, we've got a hell of a problem trying to get replacement systems by January."

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Corfield calls for mobile elite



Era of free trade is ending



Summit failure puts Esprit in trouble

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IBM livens up teller machine market

by John Kavanagh
THE automated teller machine business was shaken up by announcements from two market leaders, NCR and IBM, last week. And the news knocked \$10 off the shares of a third major supplier, Hewlett-Packard.

In the US, IBM announced a machine which can read cheques and issue coins as well as notes - but NCR said there was little demand for change issuing and the trend was towards notes of higher values.

Meanwhile NCR unveiled a machine based on its new 5080 but aimed at building societies. The machine can be programmed in Pascal.

The IBM 4730 can issue three types of coin and five denominations of banknote. If it runs out of the denomination requested it issues the next lowest.

Cash deposits can be made in envelopes. The machine can print information such as time and date on the envelope. It can also scan the machine-readable characters on cheques and accept deposits that way. In addition it can be used as a cheque-cashing machine: reliable customers can be allowed to feed in cheques and get cash in return. This is thought to be particularly interesting to the US, where people are paid by cheque rather than by credit transfer directly to their accounts.

IBM and the cash-issuing feature could be helpful for retailers looking for change.

But NCR disagreed. "It would be possible to adapt our 5080 to issue coins but we feel from our sales with users that no one wants this," the company said.

NCR emphasises both the Pascal programming and ink-jet deposit envelope printing on its new machine. Building societies manager Mike Nott said the unit could be programmed to print anything. Building societies were considering a joint auto-teller machine network; they could get their machines to print the name of the relevant society on the envelopes, for example.

The NCR 5080 offers a graphics display and voice output. NCR claims to be the market leader, with over 17,500 machines installed worldwide.



ROGERS... "Crazy system."

'Crazy' education under fire again

by John Kavanagh
A NEW attack on national policy on electronics and computing education has been launched by one of the top directors at Plessey, Group personnel director Perry Rogers. It is looking overseas for hardware and software engineers because of a "crazy education system" which does little to attract physics and mathematics graduates and teachers.

Rogers' comments come at the end of a year in which education policy has been attacked by other top industry figures, including ICL managing director Robb Wilton and Hewlett-Packard's UK managing director, David Baldwin.

In addition, the Institute of Manpower Studies has warned that cuts in government support for degrees in technology subjects could pose critical problems as soon as the economy recovers.

Plessey is looking for 100 specialists in the wake of recent big orders for defence systems. It is advertising in Australia, New Zealand, Canada and Europe, after failing to find people in the UK.

"Not enough of the best people are sticking with maths and physics even as early as the O-level stage," Rogers said. "The children tend to follow the best teachers - and not enough of the best maths and physics graduates go into teaching, because of the pay."

"Our industrial future depends on technology, but our crazy education system prevents us paying more to a maths teacher than to a Greek or geography specialist. They should be paid more: market forces should prevail, as in industry."

Rogers said Plessey would like to see more university resources spent on electronic engineering.

He added: "The universities are producing large numbers of graduates who find it difficult to get jobs, yet there's a huge shortage of the skills we need."

He warned that things could get worse. The number of 18-year-olds was expected to fall from 800,000 to 600,000 in the next decade, so if the proportion of electronics graduates stayed the same, the shortages would become even more acute.

Plessey is advertising in Australia and New Zealand in particular, because there are skill surpluses there, and graduates are keen to get experience in the UK.

Engineers go back at Post Office

ABOUT 1,400 telephone engineers went back to work in three international exchanges on Monday. They are members of the Post Office Engineering Union who were locked out two months ago following a work-to-rule in protest against the government's plans to privatise BT.

Bryan Harper, POEU assistant secretary, said the union would still be carrying on its campaign against privatisation and would consider further industrial action.

Research centre

ICL, Bull and Siemens have formally founded their new joint research centre in Munich, to be called the European Computer Industry Research Centre. Each company has an equal share capital of £150,000. The Centre hopes to tap the £840 million Esprit programme for cash.

Viewdata first

TRIUMPH-ADLER aims to be the first major European computer manufacturer to use viewdata to keep in touch with its dealer network. Information such as price changes, software updates and new product news that was previously sent by post to the 160 dealers will soon be available from T-A's closed user group pages on Prestel.

Prestel success

DOMESTIC use of the Prestel viewdata service has almost quadrupled in the last year. The number of sets has risen from 5,400 to 11,100. Over 35,000 sets are installed.

Legal service

AN online legal information service has been launched by Eurolex using the Datasolve bureau. It enables legal people to keep up to date with important cases and new laws through microcomputer links instead of having to wade through 60 professional journals. Services covering EEC and Irish law will be added next year.

Commons speech

EVERY word spoken in the Commons is now available through terminals from Scicon's Polis parliamentary information service. The full text of Hansard, the official record of Commons proceedings, is entered to Polis the same night. An index helps users find the relevant Hansard reference.

Joint satellite

NASA and Canada's Department of Communications are to develop a joint commercial satellite service for voice and data communications to mobile terminals operating in rural areas of North America. Tenders for telecommunications carriers to collaborate in the scheme will be issued early in 1984.

Sinclair sees high tech 'wall of secrecy'

by George Black
THE era of free trade between nations in technology is ending, and soon all research will be conducted behind a wall of secrecy.

This was the harsh warning of Sir Clive Sinclair, urging the Alvey Programme directors to aim for self-sufficiency in VLSI chip-making.

He told a British Computer Society meeting at Slough Higher Education College that the Japanese and the Americans would close their doors to international customers when the battle for computer supremacy reached its climax.

Alvey Programme VLSI director Bill Fawcett also referred to the dangers of dependence on imports, but he said that the UK could take only a selective approach to supporting an infrastructure of its own.

It would not be possible to apply the policy "across the board", Sinclair said that VLSI brought a fundamentally different situation to the first four generations of computers. British manufacturers could no longer buy components and bolt them together.

Foreign competitors would not allow us to do so; hardware and software were now too intimately related to ignore either; and reliance on others was geographically impractical.

The view that Britain would be best to devote itself to software was a fallacy, said Sinclair, because if we did not develop hardware we would not develop software either. Processing and memory were becoming blended, so that sophisticated CAD systems under our own control were essential.

"Either we get ourselves back into the hardware business or we're out of the game," he said.

Japan was willing to supply components while it was building up an industry, but when it gained an advantage - as it was now doing - supplies would be directed "first to its own producers and secondly, if at all, to outsiders."

"Japan sees computers as the single most important industry - it will soon be bigger than the car industry - and is absolutely determined to outstrip the US and lead the world," he warned.



SINCLAIR... "Wall of secrecy" for research.

ICL loses over 60 staff in plant closure

by Dave Madden
ICL has lost over 60 technical staff because of its decision to close its software development centre at Dalkeith, near Edinburgh. The defections could compromise ICL's plans for the Perq workstation.

When the plant was shut last Friday, of the 77 employees offered jobs at ICL's research centre at Kildrummy only nine had agreed to make the move. Another four will go to Staffordshire on a temporary basis, and seven graduates recruited for Dalkeith will start work in Kildrummy. The rest have accepted ICL's redundancy terms and will stay in Scotland.

An ICL spokesman said: "This will have a considerable effect on the Perq project in the short term - obviously not as many people have moved as we would have liked, despite considerable inducement to do so, though a nucleus of experienced staff has agreed to go."

The company has already begun a recruitment programme to fill the gaps, but it envisages "a staff shortage for six months or so."

When ICL announced in September its decision to concentrate its Perq efforts in Kildrummy, the company presented the move as proof of its commitment to the machine. But the loss of its Perq software development team is a severe blow to a product that ICL admits has proved a disappointment.

ICL mainframe applications manager John Allamby said his firm was also worried about possible US embargoes and whether the "shutters could be put up" on its relationship with Fujitsu.

were going on with the Trade and Industry Department to try to form a strategy for safeguarding access to the basic resources.

Responding to a question from the floor, Sir Clive again stressed "very serious implications" if Inmos was allowed to be bought by an American organisation.

ICL mainframe applications manager John Allamby said his firm was also worried about possible US embargoes and whether the "shutters could be put up" on its relationship with Fujitsu.

Perq Systems in the US it has sold around 1,000 machines.

ICL revealed recently that it had moved to protect its interest in Perq by putting £2 million into Perq Systems for preference shares convertible into a 16% stake in the company. ICL may try to shift development work to Perq Systems until its Kildrummy team is up to strength.

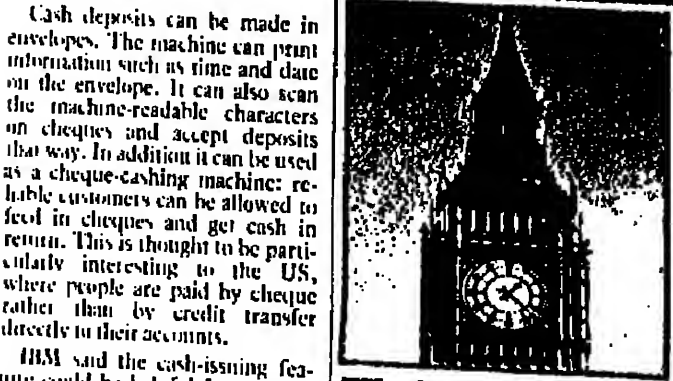
The bright side is that, according to one ex-Dalkeith employee, "the staff have almost uniformly found fresh employment".

Among beneficiaries is Future Technology Systems. A spokesman commented: "We have taken a few people from Dalkeith. ICL has tried to move scientific and technical staff from Scotland before and failed - and it had no reason to think this time would be any different."

On Monday the first Dalkeith spin-off, Spider Systems, opened for business in Edinburgh. The company has been formed by five senior managers and, although its plans are understandably vague, it intends to develop hardware and software products on a sub-contracted basis.

According to Dr Peter Palmer, who was previously responsible for all ICL's system software development for Perq at Dalkeith, his new company will concentrate on Unix systems software, including the UNIX version of Unix for Perq and local area networking - hence the name, Spider Systems.

Palmer said: "Spider Systems has the best people from ICL Dalkeith - we have a very strong team."



Corfield calls for mobile management elite in UK

by Donald Kennett
A MOBILE elite of management, able to serve both the public and private sectors, and a government-backed insurance scheme for new technology contracts, were two measures proposed last week to boost UK performance in world markets.

The proposals were made at the final conference in the UK World Communications Year programme, by Standard Telephones Cables chairman Sir Kenneth Corfield.

Corfield's call for a management elite echoes the aims of the three-year-old Matsushita School of Government and Management in Japan, which was set up with £14 million of Konosuke Matsushita's personal fortune to train people to influence society, first in Japan but later over the whole world.

Corfield highlighted Japan as the most successful of the UK's competitors at reconciling its social and industrial objectives, creating an international culture in its companies and training industry with government and bankers to offer attractive contract packages.

"While in the UK we act as if social and industrial objectives were in competition with each other, our competitors, notably the Japanese, see them as mutually supportive," he said.

On international marketing, he said: "Management is insufficiently aware of overseas markets and, more particularly, of how the design, engineering, manufacture and selling disciplines have to be integrated if overseas markets are to be taken."

"The lead has to come from the top, and for this we need to consider how to generate in Britain a public and private management elite."

The virtual impossibility of getting insurance for large projects using unproven technology was a major factor in preventing UK firms from exploiting their innovations, Corfield said.

His own company, STC, had missed out on the opportunity to supply the bulk of the first transatlantic optical fibre cable, despite having bid with technology and price as good as the best, he said, because Western Electric had been able to offer a 10-year guarantee on its system.

The best commercial insurance quotation he had been able to get was a five-year guarantee for a premium of half the contract price. The Department of Trade and



CORFIELD... "The lead has to come from the top."

Telecoms Bill for Lords

by our Parliamentary Correspondent
THE government hopes today to complete the Third Reading of the Telecommunications Bill, so that the Lords can have it by Christmas. But as the Commons winds down for the holidays, the only other business relating to the computer industry is the House of Lords Bill, which comes up for its Second Reading tomorrow.

Sponsors of the Bill, which aims to end the solicitors' monopoly in conveyancing, claim that it would help speed up and make cheaper the buying and selling of houses by encouraging much greater use of computers.

DEC wins second round in piracy case

by John Kavanagh
US leader Digital Equipment seems to have won the second round of its multi-million software piracy case against UK systems house Darkcrest.

At a procedural hearing last week Darkcrest was ordered to provide further and better details of its defence and £10 million counterclaim - and was told it would have to pay most of the costs of the last two hearings.

Earlier this year, Darkcrest failed to force DEC to prove its allegations. Instead, the judge granted an order restraining the UK firm from infringing DEC's software copyright and passing it off as a DEC OEM.

Last week, Darkcrest was told it would have to pay all the costs of the hearing and 75% of the costs of a hearing in October. The company has to provide security for a costs totalling £26,000 in 28 days.

Darkcrest still insists it has not pirated DEC software. "Where we have DEC software it is licensed to us," said managing director Nick Brackenbury.

"If our clients have software it is usually licensed to them by DEC. We've always struck to our contracts with our suppliers - perhaps it's those suppliers which are breaking contracts with DEC."

Brackenbury accused DEC of spinning the case out to wear Darkcrest down. "We're suffering because we're regarded as guilty until proved innocent," he said. "But we can't prove ourselves innocent until the case gets to court."

He added: "We won't give in. We'll go to court and prove DEC wrong."

From the beginning of this case in the summer of 1982, Darkcrest has claimed DEC's action stems from business considerations rather than piracy fears.

DEC denies this. Its software licence contracts state that a systems house can make one copy of a software product to pass to one customer. The company estimates that piracy costs it £10 million a year in the UK alone.



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Case settled

MICROCOMPUTER firm Commodore has settled out of court with a UK chip designer who sold a software pirating device - by offering him freelance work. And the man, Peter Goss, wants to use the offer to help overcome the lack of good educational software.

Commodore has also won a High Court injunction preventing Goss from making his Softswitch or any other copying device.

While accepting the settlement, Goss argued that he was not a software pirate; the pirating was by users who bought his device.

The Softswitch enables users to copy Commodore software from read-only memory cartridges to cassette tape.

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It is planned to complete the transfer in early February 1984 and the Council reserves the right to determine the actual delivery date for the supply of equipment so as to coincide with the disposal of surplus equipment.

Tender application forms may be obtained from County Secretary & Solicitor, County Hall, Newport, Isle of Wight PO30 1UD to whom completed tenders must be delivered by not later than 28 December 1983.

Critics slay 'millstone' Data Bill

by Nuala Moran
CRITICS of the Data Protection Bill who have warned that it will not do enough to protect the rights of individuals were told last week that it is impossible to protect rights without affecting commercial interests.

"Every protection for a data subject is an impediment to a data user, so it is very important to get the right balance," David Chesteron, head of the Home Office data protection division told a conference on data protection at Leicester University last week.

"Any Data Protection Bill must be a collection of balances and compromise, and the government makes no apologies in this respect."



CLUFF... "Worst of all worlds".

Cheserton added that manually held records are excluded from the Bill because "it is the capability of computers which, in the government's view, leads to the level of public concern."

Labour MP Michael Meacher disagreed with this. "There is an equal if not greater threat from manual records," he said. "All other countries apart from Denmark regulate manual records, and excluding them would lead to a disincentive to automate records," he said.

Ted Cluff, secretary general of the Institute of Data Processing Management said: "The government is only concerned with the protection of trade. The difficulty lies with the fact that the Home Office is trying to convince us that the Data Protection Bill does something to protect privacy."

According to Cluff no one sees the threat to privacy coming from private sector or local government computers. "What concerns people is the computer files of central government."

Exemptions to a data subject's right of access to information held on them under the Bill mean that many central government computer files will not be registered.

Cluff added: "What the government is proposing is the worst of all worlds. It deals quite ineffectively with privacy, and as far as the business community is concerned, it will be a millstone round their necks."



VAN ROSENDAAL... "We need to sort out a common set of the rules of the game".

Monthly payments 'will make Esprit operation difficult'

by John Riley

THE collapse of the European summit in Athens came as no surprise to the Community officials setting up the £840 million Esprit programme.

The officials are acting on the assumption that the budgetary crisis will eventually be sorted out, and last week advised for officials to administer the programme.

"We're used to this sort of situation in the European Community," said a senior official last week. "We run into a stone wall from time to time." He expects the European Parliament to reject the budget this week as a direct result of the summit, which will place Community funds for 1984 in a state of limbo.

In that case, the Commission

will receive one-twelfth of the 1983 budget each month - and have to make do with that. In the short term this will not affect the Esprit programme, as officials are currently drawing up tender documents. But "the situation makes the Esprit operation more difficult and removes long-term guarantees."

European officials expect a mini-summit to sort out the crisis before the next scheduled summit meeting next March in Brussels.

While the Brussels-oriented Esprit programme is geared towards the long-term supply of information technology, two new Luxembourg-based programmes focused on the long-term use of information technology in Europe, are beginning to get off the ground.

The first of these, the Specialist

Information Market Development Programme, was proposed recently.

Cornelis Janssen van Rosendaal, the Commission's head of information management, expects that by the end of 1984 there will be up to 65 projects under the Programme.

Approval for the full four-year programme is expected by Easter.

The Information Policy Development Programme, which has no cash sum on it at present, will provide a forum for addressing topics such as satellite TV, telecommunications policy, and transborder data flow. "It is not concerned with the industrial side, but how IT affects the user," explained Janssen van Rosendaal. "We need to sort out a common set of rules of the game."

SALES BRIEF

£1.5m Canada orders go to Graffcom

UK software house Graffcom Systems has won two export orders from Canada expected to be worth £1.5 million over the next three years. The two contracts, with Xerox Canada and micro dealer Data Crown, involve the WP 2020 word processing package for eight and 16-bit microcomputers running the CP/M operating system.

Xerox will offer the software to buyers of its microcomputer, while Data Crown will sell it with several makes of micro, including the IBM PC, DEC Rainbow and NCR Decision Mate.

Air control

CALCOMP of California has won a \$500,000 contract from Eurocontrol, the Belgian-based European Organisation for the Safety of Air Navigation. The firm will install an air traffic control simulator at Eurocontrol's Institute in Luxembourg for training staff.

Chasing the bills

TWO Western newspapers have spent £55,000 with GCS Communications to help identify advertisers who do not pay their bills. The computer system is an extension of an existing set-up for controlling billing of advertisers at the *Western Morning News* and *Western Evening Herald*.

Sherry buy

HOSKYNs has completed the third sale of its Accounts Payable software for IBM mainframes since its launch in July. Harvey, or Bristol-Cream sherry fame, has bought the software for £20,000, bringing total sales of Hoskyns' new Modular Application Systems to £100,000.

Dial-a-ride

THE nation's first dial-a-ride service for the disabled has been launched in London by the Haringey Disablement Association, with the help of a General Automation Zebra 1500 computer. Fletcher Computer Services won the tender to supply the machine.

Airport parking

THE British Airports Authority has gone to Godwin Warren Control Systems of Bristol to supply and install a computerised parking system at Heathrow Airport's Terminal 2 car park. The system will have equipment at three entry and five exit lanes linked to a cashier payment system.

Big BT deal

COMPUTER Field Maintenance has won its biggest contract yet worth £1.5 million, for installing and maintaining British Telecom's new computerised Directory Enquiry System. The order, part of the overall £25 million contract between STC and BT, is one that ICL might have won had its CAFS database access product been at a more advanced stage.

Applied orders

APPLIED Research of Cambridge has taken two big orders, one from Standard Telephone and Cables for a stock control system, the other from IDC Consultants for a computer aided design package. STC has ordered the Eros system, and IDC is taking two workstations based on a Prime 32-bit minicomputer for use on civil and structural engineering projects.

Builder invests

CROYDON-based builder Mansell is investing £130,000 in an IBM System 38 to replace its System 34 on accounting and administrative work. The new system will provide better access for branch offices in Westminster and the City of London.

GA goes \$300,000 back into the black

by Nuala Moran

US industrial automation specialist General Automation Inc announced a return to profit last week after three years in the red. A profit of just over \$300,000 was made on a turnover of \$17.1 million in the quarter August to October 1983.

This compared with a loss of \$2.7 million on sales of \$16 million in the previous quarter. The company also reduced its bank debt from \$26 million to \$14 million.

This turnaround is attributed to a three-year recovery programme launched by Leonard McKenzie, chairman and chief executive, in September 1980. The basis of this plan was to diversify out of General Automation's traditional industrial market and into the small business market.

General Automation introduced the Zebra range of Pick-based micros and minis and it now claims to be the Pick market leader in the US. There are 50 Pick dealers in the US and the company has signed up more than 40 of these.

The latest addition to the Zebra range, the 750, was on show at Comdex. It costs £7,995 and supports up to four users. The company emphasises that it is not a personal computer.

General Automation has also announced a Xenix-based Zebra range, which will be available in the UK from the second quarter of 1984.

According to Mike Long, managing director of General Automa-



LONG... "GA will identify the best system".

tion in the UK, it is now the market product leader for Pick. Zebra sales have reached £1 million since March.

There are 10 dealers for Zebra in a number of vertical markets including property management, retail and distribution, commodity broking, local government and fleet management. The plan is to double this number and Long said there were several waiting to sign up at the moment.

But Long said that General Automation will still be concentrating on the industrial market and expects to do about £2.3 million or 30% of its business in this market in 1984. Sales dropped off as a

result of the recession but this year Long said he had seen a gradual increase in business.

Overseas business accounts for 40% of General Automation business, and the UK is responsible for just over 40% of this.

Long said: "The total UK target for the current financial year is £7 million. We are already ahead of plan due to Zebra sales. We expect to do £8 million in 1985 with a healthy profit level."

"We make our profit primarily from selling hardware, but we know we need to sell complete systems. General Automation is not a turnkey systems house, but it will identify the best system."

Breakthrough for Ada in industry

by George Black

THE first big industrial project using the real time language, Ada, to be undertaken in this country is being started by ICI and Leeds University.

The joint research scheme, headed by ICI's design systems group at Runcorn, will take three years to complete and is being funded to the tune of over £100,000.

The aim is to use the expertise of the university's chemical and mechanical engineering departments to define an environment for constructing a new plant.

ICI is believed to have put a similar job out to a software consortium several years ago, which made no progress because the tools to accomplish it did not then exist.

Now Leeds has become the first site on this side of the Atlantic to get the Raim Ada compiler

validated by the US Defence Department and is hosting it on the first British installation of Data General's 32-bit supermini, the MV10000. ICI sees this as the chance it has been waiting for to relaunch the ambitious programming endeavour.

It will involve a set of graphics workstations - the supply contract is now out to tender - to be connected by a local area network, either Cambridge Ring or Ethernet. ICI will be working on DDC, Vax and Prime superminis and minis.

Behind the university team is the head of Leeds chemical engineering department, Professor Colin McGreavy, a long-standing Ada enthusiast. He has been working closely with the head of software in the computer services department, David Holdsworth, who has also been involved with York University's Ada compiler.

"Our philosophy is not that Ada is a definite answer. But it does provide an enabling tool for looking at systems design problems, and prevents you from becoming embedded in a system that you can't change."

McGreavy thinks it is unfortunate that Ada has become associated only with military use. This, he says, could be to blame for the lack of commitment to the language among UK systems and software houses.

"A lot of them surprisingly still don't seem to have heard of Ada," he says. "They don't seem to be impatiently waiting to get their hands on the tools."

He emphasised the importance of a major national research effort and says Britain could lose a big opportunity if the Ada Group and Augusta Consortium plans, backed by the government, are allowed to die.

"Our philosophy is not that Ada is a definite answer. But it does provide an enabling tool for looking at systems design problems, and prevents you from becoming embedded in a system that you can't change."

Tandy arms IBM-PC challenger

by Philip Hunter

TANDY's challenger to the IBM Personal Computer, launched this month in the US, is already being kitted out with accounting software, following a deal with the international systems group MAI.

Tandy will sell nine accounting packages including nominal ledger, sales analysis and order entry at \$495 each, giving MAI a potentially huge income from royalties.

Tandy launched its TRS-80 model at the Comdex show in Las Vegas with Microsoft's MS-DOS

operating system, the basis of IBM's PC-DOS, instead of Tandy's own operating system used on other members of the TRS-80 range.

With a huge chain of computer and consumer electronics shops in the US, Tandy has a better chance than most makers of IBM-PC clones of taking a fair slice of the market.

But no decision has yet been taken to market the model 2000 in the UK, according to Tandy UK joint managing director John Say-

er. Tandy UK is about to announce a range of standard accounting packages written by a UK software house for its Model 4 64K micro launched in July. The packages will cost £150 each. Accounting software is also being developed for the larger Model 16.

MAI also makes business computers, but according to UK managing director Mike Harris there is little overlap with Tandy, as MAI is not interested in the personal computer market. So there is no conflict of interest over the software deal.

Apple in 'friendly' push with III-Easy-Pieces

by George Black

APPLE begins a new push this week to keep its market share with the Apple III through "friendlier" applications.

British dealers are being introduced to Apple's rival to Lotus 1-2-3, the integrated spreadsheet, word processor and database which has had instant success on the IBM-PC.

Apple's product called III-Easy-Pieces, was written by Ihab

Systems of Los Angeles, author of the Quickfile database which it includes. Lotus developed 1-2-3 on the Apple III, but later decided to ignore that machine and sell it on the IBM.

Apple III was hired off as a separate "business unit" by John Sculley, the new president brought in by Steve Jobs in July to give the firm a more aggressive commercial stance. Sculley argued that Apple III was a specialist field unlike the

II. He put in charge of the unit Dave Praydon, who is currently touring Europe to promote its latest range of programs.

Fraydon is dismissive of statistics which have been quoted to show IBM holding 40% of the US micro market.

"Exaggerations like that and IBM's policy of not supporting a fully compatible software range across its machines are driving software writers back from the PC

to us," claimed Praydon.

He said the worldwide installed base of Apple IIIs had risen from 60,000 to 75,000 since August and that 400 of the 2,000 business software developers were writing applications to run under its SOS operating system.

Along with III-Easy-Pieces, the New Year will bring a "mouse" or hand-held input device for the III, and an in-house developed spelling checker.

NatWest to sell its Irish companies

by John Riley

THE National Westminster Bank is to sell off the ICS Group of Irish computer companies to Ulster-based Lamont Holdings, for around £900,000.

The ICS (Industrial Computer Services) Group comprises five companies, four Irish and one US, which employ about 200 people in total. These are ICS Computing, ICS Computing (Ireland), Software Ireland, Computer Maintenance Ireland and the Californian-based Software Ireland Representatives Inc.

Software Ireland sells Sibol, which converts Digital Equipment's Dibase to Unix and Unix lookalike systems.

The sale is being conducted by National Westminster Bank's Ulster subsidiary, The Ulster Bank, in order "to concentrate on mainstream banking activities", said a NatWest spokesman. Increased use of online computing in the banks means they are buying fewer services from outside.

The book value of the ICS Group's assets at the end of June was £320,000. In the 21 months prior to that, the group had losses of over £144,000. That figure was reached after writing off £350,000 development costs for Sibol.

Sir Desmond Lorimer, chairman of Lamont, has also been chairman of the ICS Group, although, according to the NatWest spokesman, he has had no financial interest in the group.

Dennis Bell, Lamont Holdings company secretary, commented: "We comprise a wide range of companies - from textile to engineering - and have been looking for an opportunity to buy into the high technology area for some time. We plan to expand ICS' Ireland."

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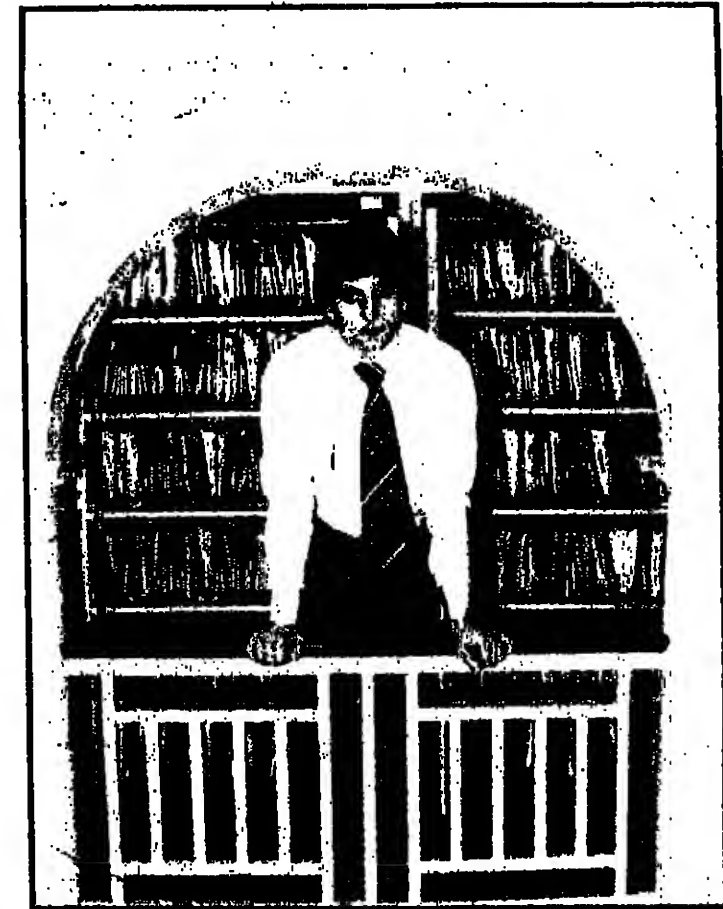
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WELLS... A coup with major US mini maker.

Micro packager turns East in link with DEC

by George Black

LONDON-BASED micro accounting packager Omicron is thrusting into the Far East through a partnership with Digital Equipment.

The major US mini maker has put its logo on to Omicron's financial suite and is promoting it in the Rainbow micro in South-east Asia. Omicron managing director Vince Wells described the endorsement as "a coup".

Last week Omicron's Hong Kong distributor Advanced Com-

ing director Ray Cheng to England to lay plans for casting the net wider. And in the same week came news of two other endorsements which could prove significant: RTZ Computer Services will sell the range in the UK; and British manufacturer of the Microframe, Tycom, is also to adopt the products as a standard offering.

ACR, formerly a Tandem OEM, is now getting a third of its income from marketing Omicron programs in Hong Kong, Singapore, Taiwan, Thailand, Malaysia

'Govts have let US firms dominate in Europe'

by George Black

INTERVENTION by European governments has helped American firms gain dominance in the public database market, according to private sector pressure group, the European Information Providers' Association, Euripa.

The association, in a new policy document adopted at its London meeting, argues that the "ubiquitous government presence has been the strongest single factor in inhibiting risk-taking by the private sector in recent years."

Fiercely nationalistic policies in the establishment of European host systems have favoured only US suppliers, according to the statement. The private sector provides only 30% of databases in Europe, compared with 60% in America.

Secretary-general of Euripa Derek Barlow pointed to the success of firms like ADP Network Services and Lockheed against European rivals.

The document attacks "attempts to apply all-embracing information policies according to a pre-conceived model". These have led to indiscriminate funding of services, the viability of which has not been tested in the marketplace, which means private initiatives based on real market demand have been put back several years. Those countries without a fully-fledged information policy seem to have the best-developed private sector information services.

The organisation, which represents about 80 firms, has commissioned a survey of 2,000 potential data suppliers, including software houses, publishers, videotex undertakings and consultancies, to get their views on the role of government. The results of the inquiry are to be presented at the

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Micro may lead to the boardroom

by Nuala Moran
MICROCOMPUTERS will provide data processing managers with a route to the boardroom if the DPMs play their cards right, according to Ron Yearley of BIS Applied Systems.

To protect his position with the growth of the micro the DPM must become "custodian of data processing thinking," said Yearley, speaking at last week's data processing seminar sponsored by Verbatim.

"To accept this new challenge the DPM will have to lose systems production facilities which take up all his time. Too much responsibility for production means he can't think about the future," he said.

Jeff Chittenden, information

services director and vice-president of Citibank, told the seminar that use of micros in Citibank's computer systems had made a great difference to his job.

"Now I only work on strategic applications and let end users do the rest. I manage the computer database and I provide the data highway."

According to Chittenden, Citibank is the largest international bank in the world. It has an electronic mail network of 3,000 users. In the UK it has 1,000 terminals in 20 locations.

On business micros the policy is to buy IBM-PCs, but Chittenden said he would let people buy other machines if they put up a good enough case.



CHITTENDEN... "I provide the data highway."

Although he decides what type of equipment is bought, Chittenden is not in charge of every system. "The dealers recently bought themselves a database which I'm not responsible for."

Yearley said this was happening to a lot of DPMs. "What I call the Apple II syndrome is happening in a vast number of companies in the UK. The growth of the micro is a threat to the centralist DP manager because a micro can quickly do what has previously taken the central DP department a

long time," he said. "A further threat to the DPM is that the guy in the periphery is beginning to think he knows a lot about computers."

Parents were getting interested via their children, Yearley said. "They find out they don't have to be mathematicians and physicists to understand computing."

"The danger is that everyone begins to think it is all terribly easy and wonders why it has always taken the centralist so long to do

International data links 'inadequate'

by John Riley
MANY companies have a good national data communications network within their own countries but lack a good infrastructure in their international data communications, says the chief of a major US information services company.

Tony Kench, managing director of Geisco's UK and Irish operations, made this criticism when announcing last week that Geisco has now made the transition from a time-sharing bureau to a fully fledged international systems house.

Kench also announced that Geisco, a subsidiary of the US electronics giant General Electric, has also become an IBM-PC dealer.

"Changing technology over the 1970s has meant that users can now get direct interactive access to systems. But over that time, we have built up our international communications network into 25 countries and now employ 5,000 people."

"We have become a solutions provider and not a computer resource provider," said Kench.

"When businesses expand abroad, they need to look at the computer systems underpinning their international business. Our job is to help companies manage their business on an international scale with the same ease that they can now do on a national scale," he added.

Explaining Geisco's move to the IBM micro market, Kench said: "We are not becoming an IBM-PC dealer for the individual market. We see ourselves as systems

builders incorporating micros into big systems. "Micros will be the terminals of the '80s, the device through which end users communicate, so it is important that some standardisation of micro is established."

"We decided to use IBM's PC because it is the most available worldwide, with ready support and maintenance. We did not choose it on the basis of a technical evaluation."

Geisco has two main remote computing services. The Mark III service uses 42 Honeywell DPS 8 computers grouped in clusters working in conjunction with Control Data disc storage units, and the other, the Mark 3000 service, runs via IBM 3081 mainframes. The company is currently evaluating a Japanese manufacturer's computers to replace DPS 8s.



KENCH... "Micros will be terminals of the '80s."

New UK design centre

by Philip Hunter

LSI LOGIC, the gate array specialist now enjoying explosive growth in the US, has unveiled its first European design centre in Bracknell, Berkshire.

It is likely to throw up a strong challenge to UK firms like Ferranti, and Marconi Electronic Devices, which already have computer-aided system design centres in Europe.

LSI this week held the first five-day course for its customers on the use of its facilities for system building. After the training, customers hire their own office at the centre with a terminal online to LSI's Amdahl IBM-compatible mainframe so that they can design

their own integrated circuits.

LSI vice-president for European operations, Robert Blair, said that some bigger customers, such as Nixdorf, had taken a licence for the LSI design software and installed it on their own computer to design logic arrays.

"But this is not the sort of thing a company starting up with five guys can do," he adds. "It is far too expensive."

Marconi offers a similar service from design centres in the UK, Sweden and Italy, although, unlike LSI, it will also supply its software and train customers to design gate arrays on their own hardware.

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Both the show and the seminars are held at the Cunard International Hotel, Hammersmith, just close to the centre of London and within easy reach of Heathrow Airport. Peripherals '84 is organised by Reed Exhibitions which also stages other major computer related exhibitions including Compec, Software and The Computer Trade Show.

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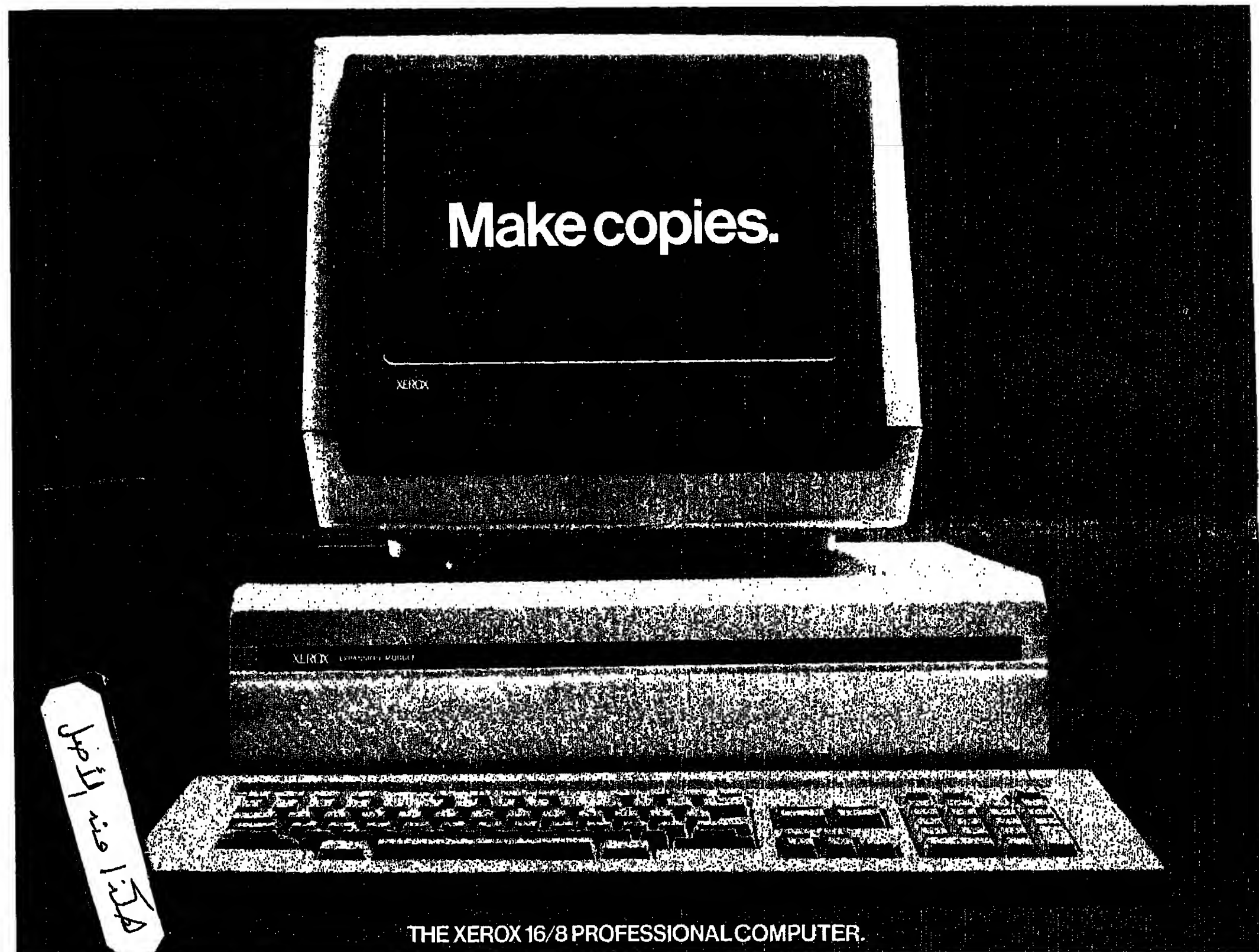
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SOFTWARE FILE

A strategy document on software engineering promises to revolutionise the industry... John Riley reports

Alvey steers production of software into the factory

DRAMATIC changes will be made in approaches to software production over the next ten years which will affect nearly every analyst-programmer in the country.

At present software production is a labour intensive process, but it will eventually become capital intensive. The Alvey Committee strategy document on software engineering outlines how it intends to help bring this revolution about.

The primary aim of the Alvey software engineering programme is to steer software production from its current ad hoc "craft" basis to a "factory" basis, with language independent development methodologies. To achieve that aim the Alvey Directorate intends to spend £65 million over five years, of which £38.3 million will be from government sources.

Although the UK software industry is healthy at present, with "mushrooming growth in the

specifying requirements; measuring software productivity and quality; and finding ways of re-using software components.

Projects will be awarded roughly in that order over the five years and findings will be fed into the integration and exploitation parts of the programme.

Oakley is particularly concerned with measuring software productivity: "It is easy to aim for a VLSI engine to push for one micron geometry, but software targets are difficult to express in numerical terms. We must change that. We need a drive towards measurement, not in lines of code, but in lines of quality code."

The largest proportion of the software engineering programme's budget, 44% or £28.3 million, is to go into the integration and implementation part of the programme.

The aim is to produce integrated project support environments. These are defined as compatible sets of specification, design, programming, building and testing tools supporting a development methodology that covers the entire software life cycle. They will also have multi-language capabilities.

The report sees a growing synergy between hardware and software design processes, and aims to develop one fully integrated project support environment that will cover both hardware and software development. The result of that environment will be an Information Systems Factory, the true focus of the programme, and which is scheduled for the end of the Eighties.

Before reaching the goal of an Information Systems Factory, however, there are three generations of integrated project support environments (IPSE) to be created.

The first generation IPSE, to be constructed in the first year, will be file-based, and Unix will be used as its basis. Talbot recognises that Unix is rapidly becoming a de facto standard over a wide range of systems and organisations and wants to take advantage of Unix developments, and the growing market for Unix-based development environments and tools.

The second generation IPSE will differ from the first generation, in that it will have a database-based rather than file-based tool set.

There will also be distributed project support.

The second generation will be developed over the second and third years of the software engineering programme, and will involve at least two approaches. One approach will be an evolution of the first generation Unix-based IPSE, and the other will be a "non-Unix attack".

In the report Talbot says that he does not "seek to establish Unix as a long-term Alvey standard", but that Unix is a good starting point. "Further work will be needed to protect against an undue level of dependence on the Unix base," he continues.

The third generation IPSE, which is expected to be initiated in the fourth year of the overall programme, will contain knowledge base and "intelligent" tools. That will be the Information Systems

Software File this week takes a closer look at the Alvey Directorate's strategy for software engineering. The strategy document, one of four covering each Alvey topic, was released and reported in *Computer Weekly* last week. The VLSI strategy document is discussed in this issue (page 11) and the one for man-machine interface is due out shortly. A report sponsored by the Science and Engineering Research Council and the Department of Industry was adopted as the interim strategy document for intelligent knowledge-based systems in August.

However, there will be strong links with the software engineering component of the £840 million European Esprit programme which will run for five years in the first instance.

The Alvey software engineering strategy overview is similar to the Esprit overview, with the three concurrent approaches of theoretical research, software development, and application. Esprit shares the idea of an Information Systems Factory as its goal.

"It is hardly surprising if the Alvey and Esprit programmes do look similar," said Oakley recently, pointing out that there was direct input into both strategies from the same sources. Talbot aims at establishing good levels of synergy between the two programmes as far as software engineering is concerned.

Factory, due for completion in 1989.

The third part of the overall programme, which will receive £19.7 million is to exploit and evaluate work conducted in the other two parts. Information and education services will be set up in the first year followed in the second year by demonstrations of the first generation IPSE in Software Production Centres. In the fourth year the

second generation IPSE will reach that stage.

Talbot has had to tailor the overall programme to fit limited resources, and certain areas have been omitted, including database development and the production of specific applications such as computer integrated manufacturing. Also, time pressures mean that the Ada IPSE will not be incorporated into the programme.



OAKLEY... "We pay our people slave labour rates".

number of companies offering software products and services, significant overseas revenues, and an academic community of world standing", the UK still has an adverse trade balance and faces increasingly stiff competition from abroad.

That is why an "essential prerequisite to the continuing health of IT is an ability to establish a capability of producing cost effective, high quality software," says Alvey software director David Talbot, who drew up the report.

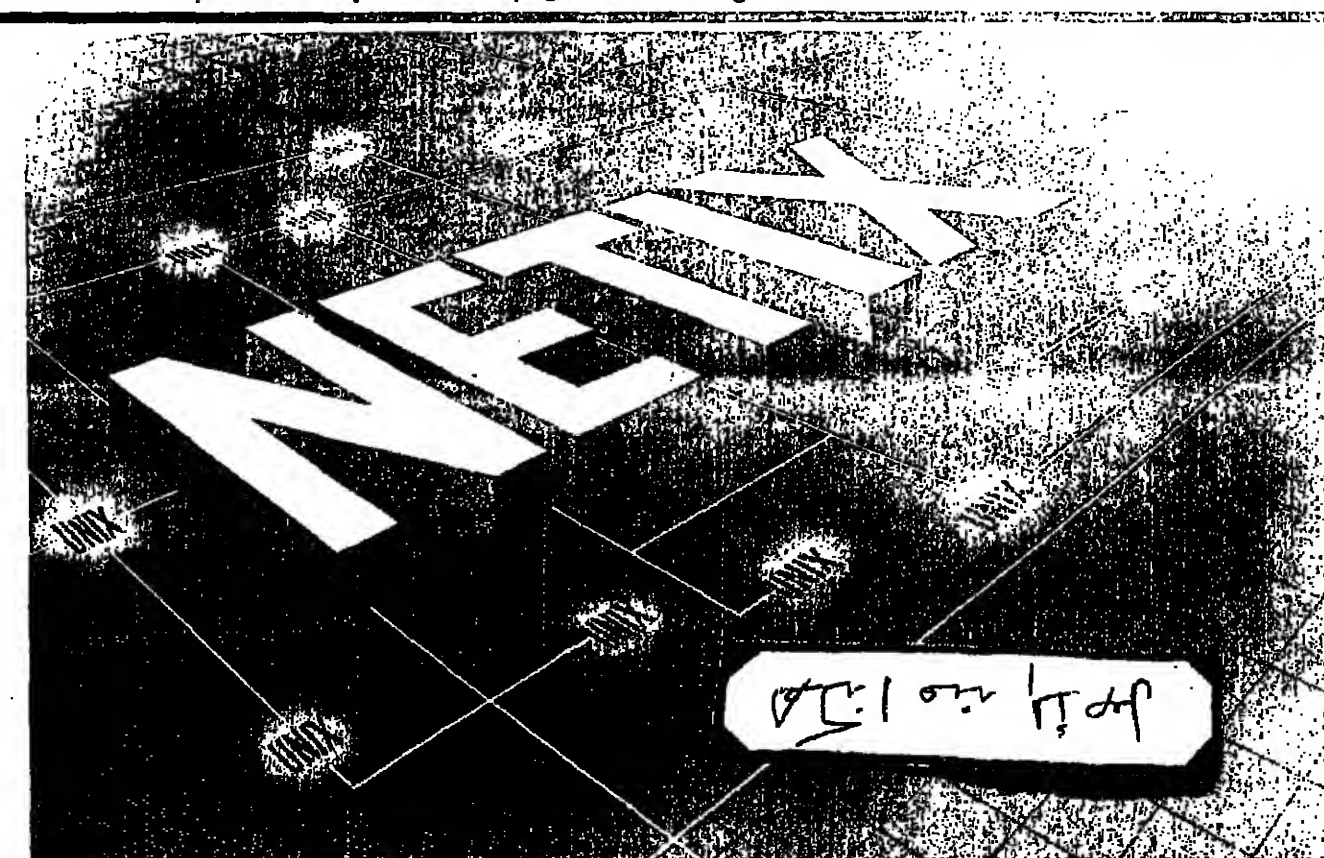
Alvey programme director Brian Oakley warned recently that although we in the UK are excellent at software, the reason we have a competitive edge is "partly due to the slave labour rates we pay our people."

The software engineering programme which is, according to Oakley, "the most important part of the Alvey initiative", covers all stages of the software life cycle. It is divided into three concurrent parts: innovation; integration and implementation of ideas generated by innovative R&D; and, finally, exploitation and evaluation.

An important point about the programme is that it is to some extent market driven: "In many areas, existing market and economic conditions will be more significant than considerations of technical excellence," says the report. The programme will not shrink from importing ideas and methods from abroad where necessary.

The innovation part of the programme will take up £17 million, or 26% of the software engineering budget. The emphasis is to harness ideas quickly and bridge the "development gap" by testing ideas on life-size projects rather than on small-scale experiments.

Projects in the innovation area will aim at improving description and modelling of the software process; developing formal ways of



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IBM PL/1, some with JSP
IBM COBOL IMS DB/DC
IBM CORAL CICS DL1 Progs.
IBM OS MVS Systems Prog.
IBM System 38 RPG III
IBM MANTIS Progs.
IBM PL/1 IMS DB/ADF
IBM IDMS Consultant
IBM RAMIS Progs.
IBM COBOL IMS with ADF
IBM DOS/VSE Systems Prog.
ICL IDMS Tech Support Cons.
ICL TOTAL Analysts
ICL VMEB Analyst
ICL 2900 VME COBOL, some with TPS
ICL PL/1 Progs.
ICL PL/AN Progs.
ICL IDMS Database Analyst
ICL Systems 25 Designer and Progs.
ICL VMEB IDMS, COBOL, all levels,
some with TPS
ICL VMEB COBOL with SCL
INTEL 8086 PLM Progs.
INTEL PASCAL Progs.
Technical Authors
TANDEM Analysts/Progs.
UNIVAC System 80 RFG II COBOL Prog.
UNIVAC 1100 COBOL Analyst Prog. URGENT!
VAX System COBOL Prog.
VAX VMEB COBOL with DATATRIEVE
280 Micro with Assembler & Telecoms

Ref:

SC 160
SC 104
SC 109

DB 182
DB 192
PH 172
KC 181
PH 213
SC 188
PH 115
CW 208
DL/DP 116
DB/DL 120

DL 211
SC 127
PH 159
DB 224
CW 219
CW 220
PH/DL 101
DL 216
CW 224
DL 217
PH 218
KC 214
DL 223
DL 222
CW 184
CW 133

PH/CW 134
PH 138
DL 212
DL 226
SC 205
PH 184
DL 215
SC 164
DB 209
DB 202
DB 221

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IBM VM/CMS COBOL CICS DL1 Progs. & Analysts
IBM COBOL CICS Senior Analyst
IBM COBOL ADABAS NATURAL Progs.
IBM COBOL CICS IDMS Progs.
IBM 8100 Progs.
PDP RT11 PASCAL & MACRO 11 Progs.
ICL VMEB Progs., Analysts & Project Leader
ICL VME IDMS TPMS Progs.
MOTOROLA UNIX & C System Prog.
IBM MVS OPERATORS
ICL VMEB SCL WRITERS
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Burroughs, COBOL DMS Prog.
UNIVAC 9000 IMS Senior Prog.
IBM MVS PL/1 COBOL Analyst, A/P & Prog.
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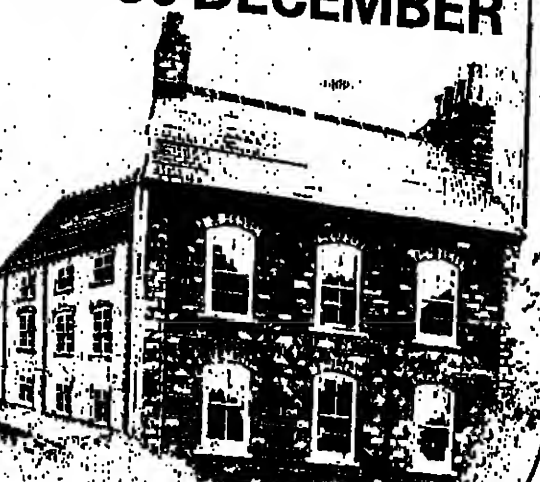
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LONDON
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West London

£8,600 to £12,000
Analyst/Programmers, Senior Analysts and Project Managers required by West London Client. Extensive COBOL, knowledge of structured programming and ICL VME and/or George 7 is desirable. Some vacancies offer a relocation package if necessary. Ref: JC 02

Development/Snr. Development Engineers

£10,000 to £14,000
SOUTH COAST
A leader in aircraft simulation systems seeks designers with 1 year + circuit design (TTL/CMOS) experience in a high technology environment, preferably involving microprocessor related systems and high speed digital circuitry. Positions will involve a combination of hardware/software exposure. Ref: SR 04

Analyst/Programmers

to £13,000
CITY
One of the forerunners in Banking systems require 1 year + PDP or VAX experience using BASIC, C, PASCAL or MACRO COMMUNICATIONS background is desirable to work for this prestigious Company. Ref: SR 05

Urgently required DEC PDP & VAX SYSTEMS PROGRAMMERS for HOLLAND or U.K.
Ref: SR 06

Contracts

Contracts home and abroad, offering variety, continuity and excellent rewards.

Hardware Software	Job Title	Location	Ref
UK			
IBM DOS/VSE PL/1	PROGS	LONDON	NC
UNIVAC 1100 JSP COBOL	PROGS	HANTS	NC
UNIVAC 1100 DMS TIP DPS COBOL	ANAL/PROGS	ALL AREAS	NC
UNIVAC 1100	OPERATORS	LONDON/BRISTOL	NC
TANDEM COBOL SCOBOL	PROGS	LONDON	NC
TANDEM COBOL TAL	ANAL/PROGS	LONDON	NC
HONEYWELL L6 COBOL	PROGS	W. LONDON	NC
SCREENWRITE			
IBM SYSTEM 38 RPG III	BANKING ANALYST	LONDON	NC
IBM SYSTEM 38 RPG III	ANAL/PROGS	ALL AREAS	NC
IBM MVS TSO/SPF FORTRAN	PROGS	LONDON	DV
IBM MVS IDMS	ANALYSTS	LONDON	DV
IBM CICS DL/1 UFO COBOL	ANAL/PROGS	MIDDX	DV
IBM DOS/VSE CICS DL/1 COBOL	ANAL/PROGS	ALL AREAS	DV
IBM INQUIRE DATABASE	ANAL/PROGS	LONDON	DV
IBM IMS DB/DC ADF COBOL	ANAL/PROGS	ALL AREAS	DV
IBM B100 DFPX COBOL	SYSTEMS PROGS	LONDON	DV
IBM MVS	ANAL/PROGS	ALL AREAS	DV
HONEYWELL DPS8 DM4 TP COBOL	ANAL/PROGS	N. LONDON	DV
BURROUGHS CMS + LINC COBOL	PROGS	LONDON	DV
MINIS/MICROS PASCAL	ANAL/PROGS	KENT	DV
IBM MANTIS	ANAL/PROGS	SOUTH	TC
ICL 2900 VME IDMSX TPMS COBOL	3 ANAL/PROGS	SOUTH	TC
ICL SYSTEM 25 ASSEMBLER	6 PROGS	SOUTH	TC
ICL 2800 VME	2 SIZING CONSULTANTS	SOUTH	TC
ICL 2900 IDMS	2 DATABASE DESIGNERS/		
	IFO STANDARDS		
	COMMS. CONSULTANT		
ICL DRS			
International			
IBM SYSTEM 38 RPG III	ANAL/PROG	PARIS	NC
IBM SYSTEM 38 RPG III	OPS ANALYST	JEDDAH	NC
IBM SYSTEM 38 RPG III	ANAL/PROGS	JEDDAH	NC

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We have a wide variety of contract requirements in the Home Counties and the South of England for experienced SOFTWARE and SYSTEMS ENGINEERS. If you have a background in INDUSTRIAL SYSTEMS, TELECOMMUNICATIONS, SIMULATION, COMMAND AND CONTROL OR BASIC SOFTWARE, contact us without delay.

INTEL, RMX, UNIX	DESIGNERS/PROGRAMMERS	LONDON
	TELECOMS EXPERIENCE AN ADVANTAGE, PARTICULARLY X25, CALL LOGGING & CITT SYS. 7.	
Z8000, MASCOY (UNIX)	SOFTWARE ENGINEERS	BERKSHIRE
H/W & S/W EXP. ON MICROS SIGNAL PROCESSING, TMS 320 SERIES OR SIMILAR	SOFTWARE DESIGNERS	S. HOME COUNTIES
HIGH PERF. SYSTEMS, MINIS OR MICROS, COMMS & BASIC SOFTWARE	VARIOUS	ALL AREAS
MATHEMATICAL/SCIENTIFIC ASSEMBLER & HIGH LEVEL LANGUAGES	VARIOUS	ALL AREAS
PDP - VAX, FORTRAN, BASIC & PASCAL	DESIGNER/PROGRAMMERS	S. HOME COUNTIES
VAX, GEC, 8086, RTLII, CORAL, RADAR, SIMULATION & DISPLAY	VARIOUS	ALL AREAS

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Contact Alex Mittlestrass on
01-630 1433 NOW!

Ref: SR 06

BUTEL BUSINESS SYSTEMS

Butel Business Systems is a medium-sized Software/Systems House, on target for a £2 million turnover this year. Since our establishment in 1978 we have achieved considerable success in the sale and implementation of turnkey projects and in package development. Now, continuing progress presents a number of excellent career opportunities for true computer professionals.

Sales Consultants
Target earnings: circa £23,000 + Car + BUPA

We need experienced sales people, or systems people with sales ambitions. You will be selling the full range of Butel products and services, from micro-networks to 32-bit superminis, financial modelling (EPS-FCIS) and packaged software covering a wide spectrum of commercial applications. Our suppliers describe us as 'the most sales orientated systems house around', which means you will be encouraged in every way to meet and exceed your targets.

Systems Consultants/Project Managers
£10,500-£14,000 + Car + BUPA

Experienced System Analyst with proven commercial experience of on-line and/or database systems? Experience of project management on at least one significant project? Then there are opportunities for further personal development in an exciting Software House environment, with the latest 32-bit supermini technology, in a wide variety of applications. If you have expertise in DB/INFORMS/DBMS, HP TOTAL/IMAGE, etc., these vacancies will be of special interest.

Senior Programmer/Analysts
£9,500-£12,000 + Car + BUPA

Extend yourself and develop your career as a commercial programmer/analyst. You must have proven commercial COBOL experience, preferably in interactive environments. And you must have a willingness and the ability to deal directly with clients.

COBOL Programmers
£7,500-£9,500 + BUPA

This is an ideal opportunity for young COBOL programmers (minimum 18 months experience) to enter a fast moving commercial environment. Excellent career development opportunities and the latest software technology.

IMPORTANT — All of the positions advertised will be located West of London, in the first instance write with CV, or telephone, the London Office below.

Sales Vacancies: Andy Miller, Sales Director. (0890)
Technical Vacancies: Ray Sparrow, Systems Director.

BUTEL
Technology for business

Butel Business Systems,
Garrick Industrial Centre, Garrick Road,
London: NW9 6AQ. Tel: 01-202 0206.

Computer Services Manager

Salary range: £22,880 to £24,590 per annum.

The North Eastern Electricity Board invite applications for the post of Computer Services Manager at their Board Headquarters located at Carlisle House in the centre of Newcastle upon Tyne.

The Computer Services Manager is responsible to the Secretary for advice on the application of computers throughout the Board and for ensuring that the requirements of all user groups are integrated into the Board's overall plan. The successful applicant will be responsible for controlling and co-ordinating all aspects of Computer Services, including systems analysis, programming, technical development and operations, and for evaluating the costs and benefits of proposed systems and new computer techniques.

The Board's installation is soon to be based on a dual ICL 2966 32 megabyte machine and a single ICL 2966 16 megabyte machine. There is a rapidly growing terminal system with over 200 video terminals operating through network processors to the mainframe.

The applications are wide ranging, some using database management systems with on-line data entry facilities. The successful applicant will have had extensive responsible experience within a computer installation and will need to show high qualities of management, both in the Computer Services Section and in the Board at large. In selecting co-ordinating the requirements of all users.

Applications by letter endorsed 'Computer Services Manager' should be addressed to the Personnel Manager, NEEB, Carlisle House, Newcastle upon Tyne, NE5 1SE, so as to be received by 30th December, 1983. (This post is open to both male and female applicants).

ELECTRICITY

DENTAL ESTIMATES BOARD, EASTBOURNE

**CHIEF SYSTEMS DESIGNER
(SYSTEMS MANAGER)**

SALARY SCALE: £10,393 TO £12,815
+ ADP ALLOWANCE OF UP TO £654 P.A.)

The Dental Estimates Board for England and Wales require a Chief Systems Designer (Systems Manager).

Applicants should have had experience at management level within a computing department responsible for the maintenance and development of a wide range of applications. Experience of mainframe ICL equipment would be desirable but is not essential.

Health Service conditions of service and superannuation arrangements apply to this appointment.

Further details and a form of application may be obtained from the Clerk to the Board, Dental Estimates Board, Eastbourne, East Sussex BN20 8AD (0323 25552). Closing

INTERNATIONAL BANK £11,000 + Bonus
The International Bank is a leading international bank with over 100 years of experience in banking. It is now recruiting for a number of positions in its London office. The successful candidate will be responsible for the day-to-day running of the bank's operations. The company offers excellent prospects for advancement. REF: D/W3000

DATA GENERAL/COBOL £10,000
Data General is a leading computer company. It is now recruiting for a number of positions in its London office. The successful candidate will be responsible for the day-to-day running of the bank's operations. The company offers excellent prospects for advancement. REF: D/W3000

**ZOOM INTO '84
ESSEX/CITY** £10,500
This is a unique opportunity for a successful salesperson. The successful candidate will be responsible for the day-to-day running of the bank's operations. The company offers excellent prospects for advancement. REF: D/W3000

**IBM SYSTEM 38
CITY** To £12,500
This is a unique opportunity for a successful salesperson. The successful candidate will be responsible for the day-to-day running of the bank's operations. The company offers excellent prospects for advancement. REF: D/W3000

The positions are just a brief selection from our extensive database of jobs in London and the South-East. If you are interested in a position, please contact us for a full details of the job and the company. We will be happy to help you in any way we can. REF: D/W3000

**ANY ICL COBOL
ESSEX & CITY** To £10,000
This is a unique opportunity for a successful salesperson. The successful candidate will be responsible for the day-to-day running of the bank's operations. The company offers excellent prospects for advancement. REF: D/W3000

**HONEYWELL
WEST LONDON** To £10,500
This is a unique opportunity for a successful salesperson. The successful candidate will be responsible for the day-to-day running of the bank's operations. The company offers excellent prospects for advancement. REF: D/W3000

IBM SYSTEM 34/BANKING £14,000 + Perks
This is a unique opportunity for a successful salesperson. The successful candidate will be responsible for the day-to-day running of the bank's operations. The company offers excellent prospects for advancement. REF: D/W3000

JUNIOR RPG II/SYSTEM 36 £8,000 neg.
This is a unique opportunity for a successful salesperson. The successful candidate will be responsible for the day-to-day running of the bank's operations. The company offers excellent prospects for advancement. REF: D/W3000

HEWLETT PACKARD - COBOL To £12,500
This is a unique opportunity for a successful salesperson. The successful candidate will be responsible for the day-to-day running of the bank's operations. The company offers excellent prospects for advancement. REF: D/W3000

DEC/PDP - BASIC + 2 £9,500
This is a unique opportunity for a successful salesperson. The successful candidate will be responsible for the day-to-day running of the bank's operations. The company offers excellent prospects for advancement. REF: D/W3000

**DATAPOINT
MIDDLESEX** £8-13,000
This is a unique opportunity for a successful salesperson. The successful candidate will be responsible for the day-to-day running of the bank's operations. The company offers excellent prospects for advancement. REF: D/W3000

**ICL 2800/VME
ALL LEVELS** £8-11,000
This is a unique opportunity for a successful salesperson. The successful candidate will be responsible for the day-to-day running of the bank's operations. The company offers excellent prospects for advancement. REF: D/W3000

RETRAIN INTO BANKING £ FIVE FIGURES!
This is a unique opportunity for a successful salesperson. The successful candidate will be responsible for the day-to-day running of the bank's operations. The company offers excellent prospects for advancement. REF: D/W3000

**COBOL/CICS
CENTRAL LONDON** To £11,000
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SYSTEMS ANALYSTS/ESSEX To £14,000
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IBM SYSTEM 38 £8-13,000
This is a unique opportunity for a successful salesperson. The successful candidate will be responsible for the day-to-day running of the bank's operations. The company offers excellent prospects for advancement. REF: D/W3000

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We are looking for dynamic systems professionals able to cope with our current business growth (over 40% every year for the last 5 years).

These systems specialists should have a few years experience with large IBM data centers environment running MVS with IMS or CICS subsystems at their latest level. Fluent english is a must, other european languages an asset.

Our company operates in 15 different countries all over Europe. Candidates must be ready to travel in Europe to support our sales force for pre-sales and after-sales support.

Please send complete c.v. in absolute confidence to:

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Avenue Louise 250, Bte. 113 - 1050 Brussels, Belgium
In Belgium: Brussels Tel: 02-734 11 11 - 11 12 - 11 13 - 11 14 - 11 15 - 11 16 - 11 17 - 11 18 - 11 19 - 11 20 - 11 21 - 11 22 - 11 23 - 11 24 - 11 25 - 11 26 - 11 27 - 11 28 - 11 29 - 11 30 - 11 31 - 11 32 - 11 33 - 11 34 - 11 35 - 11 36 - 11 37 - 11 38 - 11 39 - 11 40 - 11 41 - 11 42 - 11 43 - 11 44 - 11 45 - 11 46 - 11 47 - 11 48 - 11 49 - 11 50 - 11 51 - 11 52 - 11 53 - 11 54 - 11 55 - 11 56 - 11 57 - 11 58 - 11 59 - 11 60 - 11 61 - 11 62 - 11 63 - 11 64 - 11 65 - 11 66 - 11 67 - 11 68 - 11 69 - 11 70 - 11 71 - 11 72 - 11 73 - 11 74 - 11 75 - 11 76 - 11 77 - 11 78 - 11 79 - 11 80 - 11 81 - 11 82 - 11 83 - 11 84 - 11 85 - 11 86 - 11 87 - 11 88 - 11 89 - 11 90 - 11 91 - 11 92 - 11 93 - 11 94 - 11 95 - 11 96 - 11 97 - 11 98 - 11 99 - 11 00 - 11 01 - 11 02 - 11 03 - 11 04 - 11 05 - 11 06 - 11 07 - 11 08 - 11 09 - 11 10 - 11 11 - 11 12 - 11 13 - 11 14 - 11 15 - 11 16 - 11 17 - 11 18 - 11 19 - 11 20 - 11 21 - 11 22 - 11 23 - 11 24 - 11 25 - 11 26 - 11 27 - 11 28 - 11 29 - 11 30 - 11 31 - 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MVS JES 3 MVS MVS MVS	Prog Various Snr Anal Progs Prog/A Prog Sys Anal A Prog S/W Prog A Prog A Prog A Prog	CICS/TOTAL CICS/DLI CICS/DMS DL1 MANTIS UNIPAY FOCUS IMS DB DC IMS DB DC ADF	±COBOL COBOL ±COBOL ±PL1 COBOL PL1 PL1	Wilts Various Kent North Various Berks London S Coast Lond & Hants London London	MVS MVS MVS VM/CMS VM/CMS VM/CMS SYS 38 8100 DPPX DOS IBM PC	A Prog Progs Prog Sys Prog Prog A Prog Progs/Ana Progs A Progs Prog Sys Anal	CICS CICS/DLI TSO SPF VSAM DL1 VSAM MAAPICS LOTUS	PL1 ASSEM COBOL PL1/BAL ASSEM PL1 PL1 RPG III COBOL RPG II BASIC	S Coast Sussex Berks Kent/Surrey Essex Sussex Various Sussex Berks Sussex

London and Home Counties: Software Engineers, advanced 3D project (simulation). Min: 1 yr. contract - premium rates. Practical experience in military systems. INTEL 8086-RTL2 an advantage.

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Contact Jackie Lyons or Lesley Eley

MARCOL

01-402 9355

Computer Systems
49 Queen's Gardens, London W.2

Happy Christmas!

COMPUTER MANAGER c. £13,000 HP 3000/RPG II

Expanding international company based in London requires a manager to take control of their small computer department. Applicants should have over four years D.P. experience which must include a thorough understanding of RPG II and preferably some HP 3000 exposure although training may be given where necessary. As well as an excellent starting salary the company offers free medical insurance, 22 days holiday and the probability of a company car after a qualifying period.

SYSTEMS MANAGER c. £11,000 BCL MINI

Company based in N. London seek a Systems Manager to both install a BCL MOLECULAR 18 mini computer and take existing systems away from a software house. Applicants should have good knowledge of ASSEMBLER or other similar machine code language, be able to work on their own and be good communicators. Obviously any previous BCL exposure will be of particular interest. Systems being implemented initially include sales and purchase order processing but many other applications are planned for the future.

COMPUTER MANAGER c. £10,000 HONEYWELL L6

Installation based in Bucks. seek an Analyst/Programmer who is looking to move into a managerial position. Applicants should have knowledge of HONEYWELL L6 with either COBOL or SCREENWRITE gained in any commercial environment. They should also be able to work on their own initiative and preferably had some client contact experience. Perks include discount on company goods, non contributory pension scheme and 22 days holiday.

ANALYST/PROG DATABASE

A rapidly expanding software house is currently recruiting Analysts/Programmers with a minimum of one and a half years DATABASE gained in a PRIME or CMC environment. The software house actively encourages employees to service clients in a consultancy role therefore applicants should be presentable, confident and have the ability to deal with first time users. The client can offer job satisfaction, regular salary reviews and intensive training.

PROGRAMMER RPGII

London based site require a programmer with one year's commercial RPGII. The hardware is WANG but any hardware will be considered. Applicants should have standard accounting knowledge i.e. General Ledger, Purchase Ledger, etc. and any manufacturing exposure would be of special interest. This site will offer the successful candidate rapid progression into analysis.

ANALYST/PROG RPGII/III

An international bank has identified a requirement for an Analyst/Programmer with a solid GSD background. They have recently upgraded from a 34 to a 38. Applicants should have at least one years programming with some systems experience in a GSD background (RPGII) would be of special interest. As well as a good starting salary a standard banking benefits package applies.

£10,000

£7,000

£10,000

ANALYST/PROGS to £14,000 VAX/IBM

Rapidly expanding company, a market leader in their field, based in S.W. London seeks several Analysts/Programmers to join their development teams utilising VAX and IBM equipment. A minimum of 18 months COBOL gained in a DEC or IBM environment is required. This is a good opportunity to work on a variety of projects and offers successful candidates very good career prospects with a generous company benefits package.

SENIOR ANALYST £13,000 + CAR ICL

Our Client, an internationally renowned concern based in Berks., urgently requires an experienced Systems Analyst to take a major role in the development of new systems. Ideally applicants will have a financial systems background gained in an ICL environment using IDMS techniques. The position will also involve the control and management of analyst/programming teams. Those benefits normally associated with a large company are augmented by a company car.

ALL LEVELS to £14,000 ICL COBOL

A growing Essex based company, heavily committed to major developments of financial systems on ICL 2900/VME systems, is seeking experienced ICL people at all levels. Progs. and Analysts/Progs. should have 18 months or more COBOL experience, the latter with some formal analysis. Analysts and above will have at least two years' systems exposure. These positions attract a generous company benefits package including an excellent profit share scheme.

404 4821

Apex Computer Recruitment Ltd.

London Office: 59 Grosvenor Road, London WC1X 8TL. Tel: 01-404 4821.
Brussels Office: Rue Gotti de Gamond, 24. Ucd 1180 Brussels. Tel: 010 322 377 4193.

PUBLIC SECTOR APPOINTMENTS

PERSONNEL AND MANAGEMENT
SUPPORT DEPARTMENT
IBM SYSTEM 38

SENIOR SYSTEMS ANALYST

£9,060-£10,539

An experienced Analyst is required to work as part of an enthusiastic team, currently engaged on training systems to a SYS 38 M 38. You will need a minimum of two years experience of RPG III and the ability to complete systems quickly. Local Government experience is essential.

For an informal discussion please contact Mr Ray Wray on Bath 01254 6111 ext 210.

For a formal application please contact Mr Ray Wray on Bath 01254 6111 ext 210.

Application forms available from the Personnel Department, Bath City Council, Bath BA1 1TW. Closing date 30 December 1983.



UNIVERSITY COLLEGE LONDON CHIEF SYSTEMS PROGRAMMER

TEAM LEADER required for the Computer Centre Systems team. This Centre runs a service based on linked GEC 4190 computers and associated local and wide area networks. Several years' working with operating system software and mainframe supervisory experience are essential. Salary in range £12,346-£16,311 inc. London Allowance, according to qualifications and experience.

Full c.v. with names of two referees to the Computer Manager, University College London, Gower Street, London WC1E 6BT, or telephone 01-388 6721 for further details.

(0586)

IMPERIAL COLLEGE OF SCIENCE AND TECHNOLOGY MACHINE SUPERVISOR/PROGRAMMER

required to work in the Administration Data Processing Unit. The duties include the monitoring of daily operational schedules and control of operations. Activities, the writing, coding and testing of programs.

A good educational background is essential. Candidates should have a knowledge of DEC equipment and have had several years' working experience as a programmer (COBOL or BASIC) and as an operator.

Salary in range £8,170 (£8,975 plus £1166 London Allowance according to qualifications and experience). For a full and complete application form, please contact the Personnel Department, Imperial College of Science and Technology, London SW7 2BZ. Closing date for receipt of applications 9 January 1984.

(0581)

SOUTH OXFORDSHIRE DISTRICT COUNCIL

SYSTEM CONTROLLER c. £8,200

A progressive and exciting local authority which is going places with systems and a System Controller who will be responsible to the Project Controller (SOLAP) for the operation of a Prime 780 installation running a graphics map based GDS information system. Prizes experience in a multi-user site is an essential requirement.

Conditions of employment are excellent and relocation assistance will be given if appropriate.

For job description and application form telephone Ray North, Assistant Treasurer (0491) 35551 ext 3511 or write to PO Box 22, Crickham, Wellingford OX10 8HH.

(7001)

PUBLIC HEALTH LABORATORY SERVICE BOARD COMPUTER OPERATIONS CONTROLLER

Scale 9. Salary Scale £8990 to £10900 inclusive of London Weighting. You will be responsible for the management of computer operations at Colindale and actively involved in the financial planning and implementation of the re-siting of existing equipment in a new building scheduled for completion at the end of 1984. Some travel to provide assistance and advice to other PHLS laboratories distributed throughout England and Wales will be required.

Two years' experience in a supervisory role and knowledge of on-line systems and data communications are essential and a knowledge of CIL mini computers would be advantageous.

As a senior member of a small team a high degree of personal initiative and commitment is essential.

Application forms, job description and further particulars are available from the Personnel Officer, Public Health Laboratory Service Board, 81 Colindale Avenue, London NW9 5EQ, tel: 01-200 1295 ext. 40.

Closing date: 6 January 1984.

(0971)

UNIVERSITY OF CAMBRIDGE COMPUTING SERVICE

The University of Cambridge Computing Service is a major centre for the University and is now seeking a new member of staff to join the team. The post is a full-time position and involves a wide range of responsibilities. The successful candidate will be responsible for the day-to-day operation of the service and will be expected to develop and improve the service. The post is a senior position and requires a high degree of initiative and commitment.

For a full and complete application form, please contact the Personnel Officer, University of Cambridge Computing Service, 81 Colindale Avenue, London NW9 5EQ, tel: 01-200 1295 ext. 40.

Closing date: 6 January 1984.

(0971)

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Closing date: 6 January 1984.

(0971)

Inner London Education Authority

Brixton College
56 Brixton Hill, London SW2 1OS

BUSINESS STUDIES DEPARTMENT

LECTURER II - COMPUTER STUDIES

A computer professional is required as a Lecturer II in a young, fast-growing computer section at the college from January 1984, or as soon as possible. THIS IS A RE-ADVERTISEMENT.

The person appointed will be required to contribute to the teaching of computer awareness throughout the college and specifically to develop BTEC Computer Studies.

Applicants should possess relevant professional qualifications and/or experience. The possession of a teaching qualification would be an added advantage but is not essential as facilities for teacher training would be provided.

Salary on an incremental scale within the range £7,215 to £11,568 including £887 Inner London Allowance - starting point depending on qualifications, training and experience.

Application forms available from the college (tel. 01-737 1166), or from the Applications Secretary at the above address (Ref. 8526).

Closing date for receipt of applications - January 6th, 1984.

ILEA is an Equal Opportunities Employer

(0983)



Brighton College of Technology

Formerly Brighton Technical College

Principal L.H. Farnsworth OBE, MA, BSc

FACULTY OF ENGINEERING SENIOR LECTURER IN MICRO ELECTRONICS (REAL-TIME PROGRAMMING)

£10,683-£13,443 (Ref: 554)

Required as soon as possible to teach mainly on a new full-time course in Real-Time Programming leading to a TEC Higher Certificate. Applicants should be graduates and/or Chartered Engineers and experienced in both hardware and software aspects of microcomputer systems. Hardware knowledge of 16-bit systems as well as 8-bit systems is desirable. High-level languages offered should include Pascal, together with some knowledge of operating systems.

Relocation grants available in approved cases.

Details from Principal, Brighton College of Technology, Pelham Street, Brighton BN1 4PA. Telephone: (0273) 68871. Closing date 10 days from this advertisement.

(0984)

TECHNICAL ASSISTANT (Communications)

Scale 6/PO1(D)

£8,751-£11,849 inclusive

An additional person is

required within the Technical

Support Group of the

Computer Division to be

mainly concerned with the

introduction and eventually

the daily supervision of the

Council's recently ordered

Libraries' System Mini-

Computer. The successful

candidate should have at least

four years' experience in

Computer Operations, a good

understanding of Data

Communications Procedures,

Line/Modem Protocols and

Network Problem

Diagnosis. This post is

not subject to shift working,

however there may be a

requirement for occasional

Saturday duty and time would

be given in lieu.

Further details can be

obtained from David Evans on

Ext 3125 or write for an

application form (closing date

for return being 30.12.1983)

to the Data Processing Manager,

Civic Centre, Lampion Road,

Hounslow TW3 4DN.

An equal opportunity

employer

(0981)

UNIVERSITY OF LEICESTER MEDICAL SCHOOL

Applications are invited for the post of

RESEARCH ASSOCIATE
(APPLICATIONS PROGRAMMER)

This post will be concerned with the

development of software for clinical

and community research. The

successful candidate will be

responsible for the day-to-day

operation of the service and will

be expected to develop and

improve the service. The post

is a senior position and

requires a high degree of

initiative and commitment.

For a full and complete

application form, please

contact the Personnel Officer,

University of Leicester Medical

School, 41-43 Clarendon Road,

Leicester LE1 7RH. Tel: 0533

2222. Closing date: 2 January

1984.

(0987)

BIRKBECK COLLEGE (University of London) COMPUTER PROGRAMMERS

Two vacancies exist in the College

Computing Services which operate a network

using a GEC Switch and a VAX 11/780

running VMS and providing a local

area to the University Network and its

main hardware (mainframe, VAX, etc.)

in addition to local computing. They are

for:

1. A Senior Programmer/Analyst to

provide expert advice and assistance on

local file and data management software

(VAX, dBase, etc.) and to provide a

data administration (inventory, avail-

ability, dump and recovery and allocation

strategies), and for user advice in making

efficient use of allocated space (data com-

pression, etc.). At least five years' expe-

rience, two in some area of this work is

required and ability to assume full respon-

sibility for Data Administration in the

course. Salary on scale £12365 to £13611

(inclusive of London Weighting).

2. An Applications Programmer to assist

users and develop applications software

particularly related to the Amstrad and the

Grey Programme will be mainly in For-

tran. An ability to produce clear documen-

tation and to work in close liaison with

users is required. Salary on scale £8376 to

£12365 (inclusive of London Weighting).

Application forms from the Assistant

Secretary (Personnel), Birkbeck College,

Market Street, London, WC1E 7HX. Tele-

phone 01-883 8822, ext. 520 or apply with

full c.v. in duplicate and names of two

referees.

(0989)

LEWISHAM & NORTH SOUTHWARK HEALTH AUTHORITY MICRO ANALYST/ PROGRAMMER

Lewisham and North Southwark Health

Authority have several computer

applications programs and have many

years of computer experience. The

post is a full-time position and

involves a wide range of

responsibilities. The successful

candidate will be responsible for

the day-to-day operation of the

service and will be expected to

develop and improve the service.

The post is a senior position

and requires a high degree of

initiative and commitment.

For a full and complete

application form, please

contact the Personnel Officer,

Lewisham and North Southwark

Health Authority, 100 Marsham

Street, London SE1 1AA. Tel: 01-859

2222. Closing date: 2 January

1984.

(0987)



Suffolk County Council

Highways Department

The following staff are required as a result of the restructuring of the Technical Services Group to meet the demands of Direct Labour Organisation legislation, and to further the introduction of Information technology systems.

For the Development Team:

SENIOR ANALYST/PROGRAMMER

Post H81

Grade SO2: £9,945-£10,539 p.a.

Applicants should preferably have a degree or equivalent qualification in Computer Studies or similar numerate discipline, be a member of a professional body, and have at least 4 years experience in programming and analysis in an engineering or scientific field.

ANALYST/PROGRAMMER

Post H79

Scale 6/SO1: £8,154-£9,660 p.a.

Applicants should preferably hold an HNC in Computer Studies or equivalent qualification in a numerate discipline and at least 2 years experience in programming and analysis in an engineering or scientific field.

For the Support Team:

TECHNICAL ASSISTANT

Post H63

Scale 4: £6,264-£7,005 p.a.

The post holder will initially be appointed on a two year temporary contract renewable subject to review. The appointed person will be responsible for providing support and monitoring the day-to-day use and operation of the Department's Computer resources both applications and systems, hardware and software, to meet the Department's data processing requirements, particularly those in remote Area offices. Applicants should preferably hold an HNC or equivalent qualification and have 3 years experience in Civil or Highway Engineering design or maintenance, and hold a current driving licence.

The County has a dual ICL 2972 mainframe computer serving an extensive terminal network. The Department additionally has a Prime mini-computer, several microcomputers, together with Tektronics and Benson equipment for graphics.

Further details and application forms obtainable from The County Surveyor, St Edmund House, Rope Walk, Ipswich IP4 1LZ, tel. Ipswich 56801, ext. 6309, returnable by 21st December 1983.

(0981)

P.A. to Chief Executive

World-wide responsibility for a DP Philanthropist

Our client is chief executive and sole owner of a unique

organisation which distributes a wide variety of consumer

goods to the home market on an annual basis.

This new part-time post is a direct result of the rapid

expansion in the home computer and related markets.

Prime responsibility will be to identify reliable computer

manufacturers; manage a temporary team of gubbins

millionaire into a second utilising lives under Santa; schedule

an efficient distribution network and control a team of

reindeer.

Knowledge of low-level languages, HOHO IMAGE and a

high degree of self-motivation are essential.

The post offers an enormous and stimulating challenge

plus the opportunity to spread a little happiness world-

wide. The rewards are immense and intangible, but will

include a cabbage patch doll.

Please write with full details to: IVOR MICRO,

HAY-MSL

SELECTION & ADVERTISING

17 Stratton Street, London W1X 8DB.

(0981)

ST. THOMAS' HOSPITAL LONDON SE1 7EH

SHARPEY-SCHAFER CENTRE

COMPUTING IN PATHOLOGY LABORATORIES

Applications are invited for two posts of Programmer/Analyst in the

Department of Computing Science. Candidates should hold a

degree or equivalent qualification and have experience in FOR-

TRAN and Assembly Language programming.

Successful candidates will initially join a small, and highly active

team working on the production of an integrated, portable com-

puting system for use in pathology laboratories. They will be respon-

sible for designing, writing and documenting programs for the

capture of laboratory results and the production of clinical reports.

Salary on a scale rising to £10,067, including London Allowance. An